

REMARKS

By the present Amendment, claims 11, 20 and 22 are amended and claims 25 and 26 are added. This leaves claims 11-26 pending in the application, with claim 11 being independent.

Rejections Under 35 U.S.C. § 102 and § 103

Amended claim 11 covers a device for damping pressure surges in a fluid comprising a housing 10, a spring-type accumulator 12 in the housing, a first piston 14 and a second piston 24. The housing has a longitudinal axis 32 and a connecting piece 26. The first piston is displaceable in the housing against pretensioning forces of the accumulator. The second piston is displaceable in the connecting piece along the longitudinal axis. The first and second pistons are mechanically uncoupled such that they can be separated relative to one another. The accumulator biases the first piston such that the first piston exerts a compressive force on the second piston and the two pistons are in constant contact with one another in all positions of the two pistons, and extends axially along an entire length thereof between oppositely facing surfaces of the first piston and the housing. The first and second pistons are in a non-overlapping arrangement and extend in opposite directions from their abutting surfaces. An anti-loss device 34 is attached to the connecting piece at a side of the second piston remote from the first piston.

By forming the device in this manner, the device can be easily made and be of compact construction, while being able to withstand very high system pressures and effectively damping pressure surges, particularly as a result of the pistons being in a non-overlapping arrangement.

Claims 11, 13, 15, 17, 20-22 and 24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,871,995 to Cline (cited but not applied in the prior Office Action). The Examiner relies on a Cline patent as disclosing a device having a housing 1, a connecting piece 2, a spring 22, a first piston 18 biased by the spring and a second piston 13 in

the connecting piece. The two pistons are allegedly mechanically uncoupled. The spring allegedly biases the first piston to exert a compressive force on the second piston such that the pistons are in constant contact. The first and second pistons are allegedly in non-overlapping arrangement and extend in opposite directions from their abutting surfaces. An anti loss device 9 is allegedly attached by threads. The second piston is allegedly configured as a stamp inserted through an opening in the housing portion and has an annular lubricating groove holding member 13' on its outer circumferential surface. The spring is alleged to extend between a cover element 23 on the housing and the first piston. The Cline connecting piece 2 allegedly has a portion inside the housing with a diameter that is smaller than the external diameter of the remaining portion of the housing.

As set forth in the August 30, 2007 Advisory Action, the indirect connection of the Cline spring 22 with first piston 18 provided by cylindrical cap 20 is allegedly sufficient to meet the language in previously submitted claim 11.

Amended claim 11 is patentable distinguishable over the Cline patent by the first and second pistons being in a non-overlapping arrangement in combination the entire axial length of the accumulator being between oppositely axially facing surfaces of the first piston and the housing. In the Cline patent, apparently only contact rod 18 is being viewed, and particularly is being viewed without the cylindrical cap 20 to which upper projecting end of the contact rod is centrally pinned (column 2, lines 30-33). The Cline spring 22 seats on flange 21 on cap 20 such that the spring only biases a "first piston" to exert a compressive force on a "second piston" (allegedly provided by Cline piston 13) if the "first piston" of the Cline patent is a combination of or comprises both contact rod 18 and cylindrical cap 20. With such combination of contact rod 18 and cylindrical cap 20 the Cline "first piston" overlaps the second piston (piston 13), contrary to the claim 11 recitation of a non-overlapping arrangement. If the Cline "first piston"

is viewed as the contact rod 18 alone (i.e., without cylindrical cap 20), the spring 22 allegedly providing the claimed spring-type accumulator would not be biasing the first piston and would not extend axially along its entire length between oppositely axially facing surfaces of the first piston and the housing, as claimed.

Thus, the Cline patent does not anticipate or render obvious the subject matter of claim 11.

Claims 12-26, being dependent on claim 11, are also allowable for the above reasons. Moreover, these dependent claims recite additional features, further distinguishing them over the cited patents. Specifically, the relative diameters of the first and second pistons of claim 12, the configuration of the second piston as a stamp inserted into a housing opening of claim 13, the machining of the second piston and the gap of claim 14, the annular lubricating grooves of claim 15, the leakage opening of claim 16, the accumulator of claims 17-19, the direct engagement and inside cover element of claim 20, the cover element in the form of a retaining plate inside the housing of claim 21, the accumulator extension and direct engagement of claim 22, the cover element in the form of a screw cap of claim 23, the relative diameters of the connecting piece in the remaining portion of the housing of claim 24 and the fixed cover element of claims 25 and 26, particularly within the overall claimed combination.

Relative to claim 13, no evidence shows that the Cline piston 13 is a stamp.

Relative to claim 15, Cline member 13' is a cup seal (column 2, lines 27-29), and thus, does not provide the claimed annular lubricating grooves.

Relative to claims 20 and 22, the Cline helical spring is not between and directly engaging its cover and the first piston, if "first piston" is contact rod 18 without cylindrical cap 20.

Relative to claim 21, Cline follower plate 25 is not retained in the housing by a retaining ring as claimed, since cap 23 is not a retaining ring.

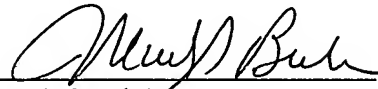
Relative to claims 25 and 26, the Cline follower plate 25 is movable and not fixed to housing 1, as claimed.

Claims 12, 14, 18, 19 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Cline patent. In support of the rejection, it is contended that the limitations recited in these claims involve obvious design choices, without any citation of additional prior art. It is alleged to be obvious to form a cap with threads for attachment to the housing, to machine grooves in the second piston, to make the two pistons of any relative size, and to use a gas charge in the accumulator. Since no evidence is submitted to show that these claim features are obvious, the rejection lacks proper evidentiary basis.

Claim 16 stands rejected under 35 U.S.C. § 103 as being unpatentable over the Cline patent in view of U.S. Patent No. 5,148,834 to Reinartz. The Reinartz patent is cited in connection with a dampening device having a leakage opening 23. In support of the rejection, it is contended that it would be obvious to provide the Reinartz leakage opening in the Cline device. Since the Reinartz opening 23 does not extend in the housing into a space between two abutting pistons, it does not teach the subject matter of claim 16.

In view of the foregoing, claims 11-26 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,


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